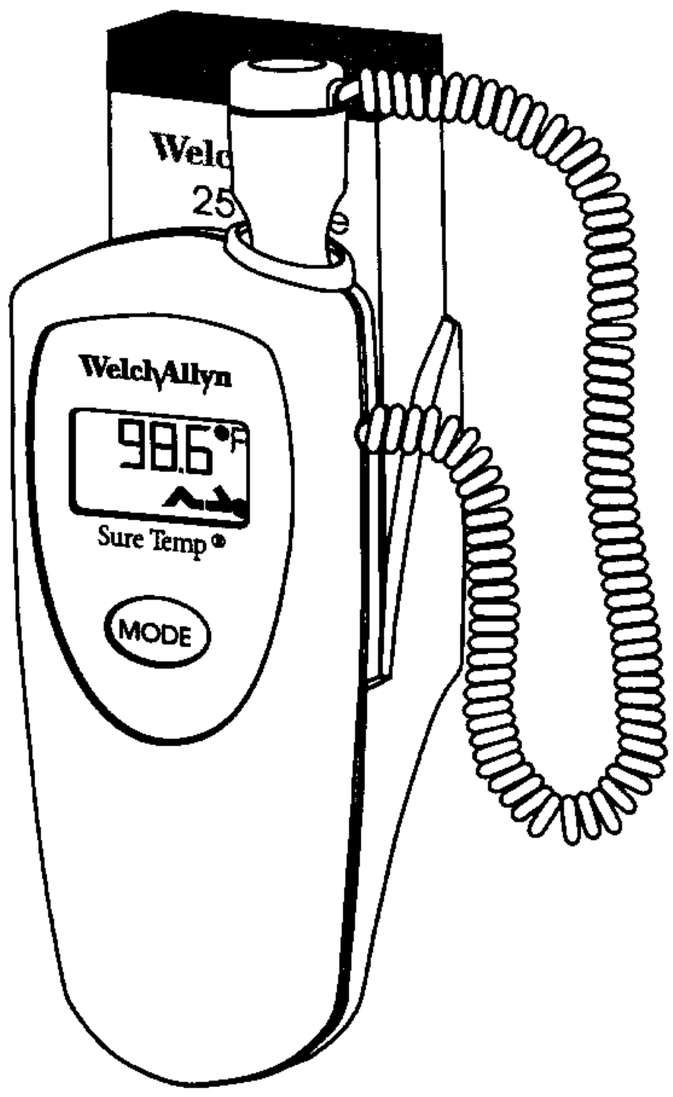
SureTemp®

WelchAllyn®

Model 986 SureTemp®

Digital Thermistor Thermometer



Operating
Instruction
Manual

CE 0050

Congratulations on your purchase of the Welch Allyn Model 986 SureTemp® Thermistor Thermometer. The operating and maintenance instructions found in this manual should be followed to ensure years of accurate and reliable service. Please read these instructions thoroughly before using the instrument and keep them in a safe place.

Technical service manuals may be ordered by contacting Welch Allyn Customer Service at (800) 854-2904.

The CE mark on this product indicates it has been tested to and conforms with the provisions noted within the 93/42/EEC Medical Device Directive.

European Regulatory Manager, Medical Division
Welch Allyn Ltd., Navan, Co. Meath
Republic of Ireland

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LIMITED WARRANTY

SAFETY AND WARNINGS

⚠ DO NOT USE IN THE PRESENCE OF FLAMMABLE ANESTHETICS.

- Do not use this instrument for any purpose other than that specified in this booklet. Doing so will invalidate the instrument's warranty.
- Use single-use Welch Allyn disposable probe covers to limit patient cross-contamination. The use of any other probe cover or the failure to use a probe cover may produce temperature measurement errors.
- Oral/Axillary SureTemp thermometer models (with blue ejection button at the top of the probe) are to be used for taking oral and axillary temperatures only. Rectal models (red ejection button) are to be used for taking rectal temperatures only. Use of the probe at the wrong site will result in temperature errors.
- The thermometer case is not waterproof. Do not immerse it in liquids or drip fluids onto it.
- The Welch Allyn SureTemp thermometer consists of high quality precision parts. Protect it from severe impact and shock. Do not use the thermometer if you notice any signs of damage to the probe or instrument. Contact our Customer Service Department at (800) 854-2904 for immediate assistance.
- Please note the cleaning procedures described on page 15 of this manual.

⚠ **NOTE:** This thermometer complies with current required standards for electromagnetic interference and should not present a problem to other equipment or be effected by other devices. As a precaution, avoid using this device in close proximity to other equipment.

SYMBOL DESCRIPTIONS

Attention! Read Operating Manual for Cautions and Instructions for use.

TYPE BF Equipment

Internally Powered

Not Water Resistant

Maximum Relative Humidity While in Storage Not to Exceed 95%, Non-Condensing.

Storage Temperature Range is -25°C to 55°C at 15-95% Relative Humidity, Non-Condensing.

CLASSIFICATIONS

Type of protection against electric shock	Internally Powered Equipment
Degree of protection against electric shock	Type BF Applied Part
Degree of protection against ingress of liquids	Ordinary (IPXO)
Degree of safety in the presence of flammable anesthestics	Equipment not suitable for use with flammable anesthetics
Mode of operation	Continuous

INTRODUCTION

The Welch Allyn 986 SureTemp is a portable predictive thermometer to be used for accurately measuring body temperatures in just a few seconds at oral, axillary, or rectal sites. Oral/axillary and rectal probes utilize single-use disposable probe covers which limit cross-contamination.

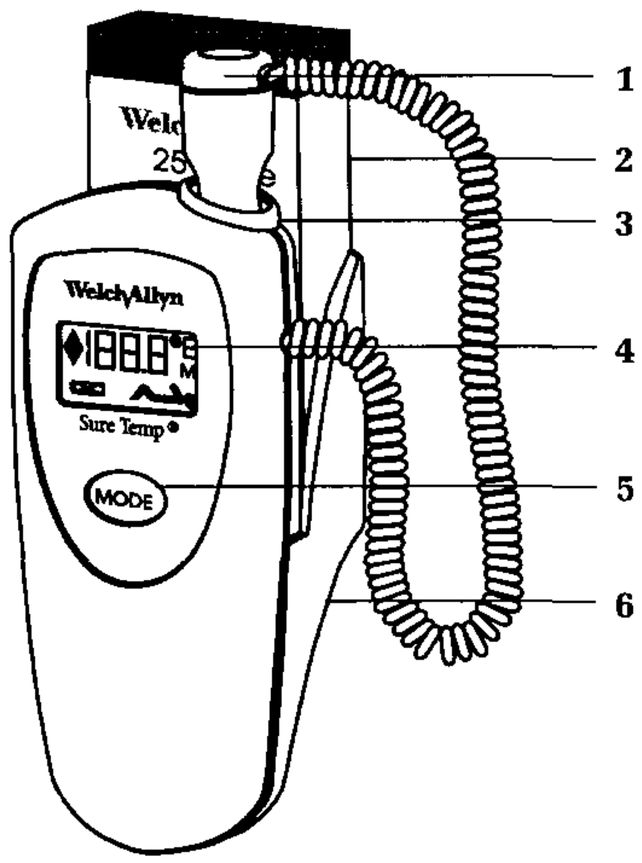
This high quality and innovative instrument was developed for rapid and reliable use by medical professionals and day care providers. The predictive technology allows you to take oral temperatures in approximately 4 seconds, axillary temperatures in approximately 10 seconds (for children under 4 years), and rectal temperatures in approximately 15 seconds in the Normal Mode. This technology has been proven in clinical application and, due to its reliability and speed, is ideal for use with all ages – even babies, young children, and other difficult-to-test patients.

Temperatures can be taken using Normal or Peak Hold Monitor Modes of operation. The Peak Hold Monitor Mode will reflect the patient's actual temperature in about 3 minutes for oral and rectal, and about 5 minutes for axillary temperatures. The display will show the highest temperature obtained.

PARTS AND FEATURES

The 986 SureTemp thermometer is packaged with one box of 25 Welch Allyn Disposable Probe Covers, this Operator's Manual, a Warranty Registration Card and a Quick Reference Card. The serial number of your instrument is located on a label affixed to the back of the unit.

Please note the features of your Welch Allyn 986 SureTemp predictive thermometer in the diagram below.



1. Probe cover ejection button
2. Box of probe covers
3. Probe storage channel
4. LCD display
5. Mode button
6. Battery compartment

DISPLAY INDICATORS

FUNCTION SYMBOLS	
	The horizontal figure on the LCD display is the measuring mode symbol. A body part flashes to indicate the selected measuring site (oral, axillary, or rectal).
	Rotating LCD segments indicate that a rapid, predictive temperature is being measured.
M	"M" indicates the displayed temperature has been recalled from memory.
°F or °C	Indicates the selected temperature scale.

ERROR SYMBOLS	
▲ ▼	An up (▲) or down (▼) arrow will flash when the upper or lower temperature measuring range limits have been exceeded. **NOTE:** For Oral/Axillary temperatures less than 93.0°F, no ▼ arrow will display.
▲ ▼ A	"A" indicates that the ambient temperature is outside the specified temperature range. The Arrow indicates if it is above or below.
E	Error: Instrument Malfunction. Contact the Welch Allyn Customer Service Department.
	All segments of the measuring mode symbol flash simultaneously if the probe tip has not maintained tissue contact or was removed from the measuring site during the measuring process*. Place the probe back in the probe storage channel and then remove it to start a new measurement. Keep the probe tip in the measuring position while taking a temperature.
	Flashing Battery Symbol. Batteries are low and must be replaced. This symbol continues to flash until the batteries are dead. Insert new batteries as described on page 14.
NO DISPLAY	Please check to see that the batteries have been inserted correctly, or that the batteries do not need to be changed.

*** If the probe tip is not held still during the measurement process, the measuring period may be longer than specified in the predictive mode, or the thermometer may fail to measure a rapid temperature. Repeat the measurement, holding the probe tip still.**

OPERATING INSTRUCTIONS

SELECTING A MEASURING SITE

The measuring mode can only be selected while the probe is inserted in the storage channel (this turns the thermometer off). Site selection may be initiated with a blank screen, or when a temperature has been recalled.

1. Press and hold the Mode button for at least 2 seconds. The thermometer beeps and the figure on the display shows the flashing symbol for the selected measuring site. The oral measuring mode has been pre-selected for initial use with the oral/axillary unit (identified by a blue-capped probe).

2. To change the measuring mode to axillary, briefly press the Mode button. The thermometer will beep, and the flashing display will indicate the new measuring site. To return to the oral measuring site, briefly press the mode button again.

NOTE: The rectal site has been pre-selected for the rectal only thermometer (identified by a red capped probe). Pre-selection of the measurement site is not required.

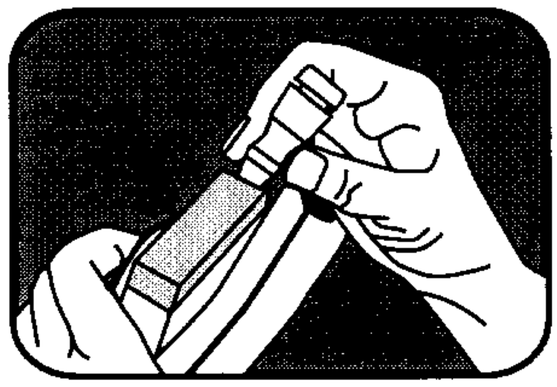
After setting the desired measuring mode, turn the thermometer on by removing the probe from the probe storage channel. *Please note that correct temperature measurement cannot be guaranteed if the set measuring mode and the actual measuring site are not the same.*

NOTE: The last selected measuring mode remains in memory when the thermometer is switched off, and will initialize the next time the probe is removed from the storage channel.

INITIAL OPERATION

Fit a new probe cover on the probe tip prior to every measurement. Failure to do so may result in incorrect temperature measurement or possible cross-contamination.

1. Hold the probe handle below the collar with the thumb and forefinger, being careful not to hold or press the "ejection" button on the top.



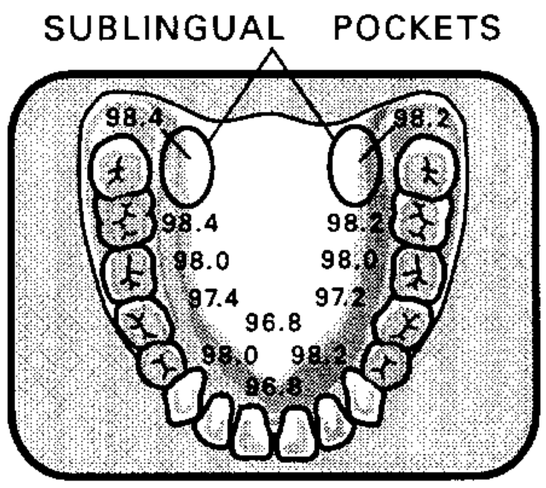
2. Insert the probe into a probe cover and press the collar down firmly to secure the cover.

ORAL TEMPERATURE MEASUREMENT

When used correctly your oral/axillary thermometer (blue-capped probe) is able to accurately predict *oral* temperature within approximately 4 seconds.

1. Verify that the oral measurement symbol is flashing on the display. This indicates you are ready to take an oral temperature.

2. Insert the probe tip gently into the patient's open mouth, quickly sliding the probe under the tongue on either side of the mouth to reach the rear sublingual pocket. Have the patient close his/her lips around the probe.



NOTE: It is important to place the probe in the rear sublingual pocket for accurate measurement.

3. Hold the probe in place, keeping the tip in contact with the oral tissue during the entire measurement process. *Holding the probe still ensures a fast and accurate measurement. Mouth breathing or taking hot or cold food or drinks shortly before measurement also influences the temperature values obtained.*

   Your Welch Allyn SureTemp thermometer always attempts to first calculate the temperature in the rapid predictive mode.

4. Rotating segments appear on the display, indicating that measurement is in process.

5. When the final temperature has been obtained, three short tones will sound and the patient's temperature will be displayed. If correct measurement in the predict mode is not possible (e.g. failure to keep the probe tip still) the measuring time will be extended. In this case the °F display flashes and the measurement site figure disappears.

6. To continue measuring temperature in the Peak Hold Monitor Mode (if desired), hold the Mode button down *for more than 2 seconds after the final "predicted"* temperature is displayed.

7. After temperature measurement is complete, remove the probe from the patient's mouth. Eject the probe cover by firmly pressing the Ejection button on the probe (see diagram, page 5).

8. Return the probe to the probe storage channel to turn off the thermometer. If this is not done, the instrument switches off automatically after 10 seconds.

AXILLARY TEMPERATURE MEASUREMENT (FOR PATIENTS UNDER 4 YEARS)

When used correctly, your oral/axillary thermometer (blue-capped probe), is able to accurately measure *axillary* temperature within approximately 10 seconds.

NOTE: The fast axillary measurement should only be used for children under four years of age.

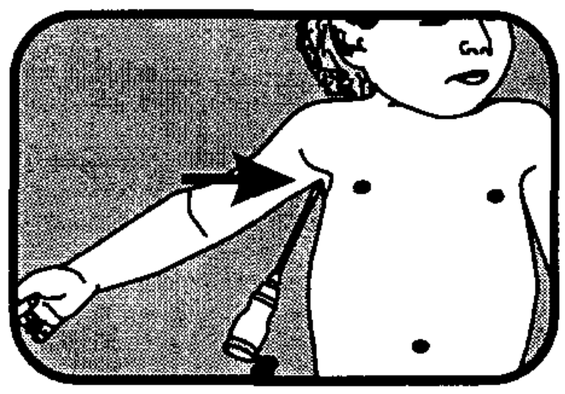
1. Ensure that the Axillary Mode is selected prior to removing the probe from the storage channel. (See *Selecting a Measurement Site*, Page 8).

2. Remove the probe from the probe storage channel.

3. Fit a probe cover onto the probe as described in *Initial Operation* (Page 9).

4. Verify that the axillary measurement symbol is flashing on the display. This indicates that you are ready to take an axillary temperature.

5. Lift the patient's arm so that the entire axilla is easily seen and place the probe as high as possible in the axilla. Do not allow the probe tip to come into contact with the patient until the tip is placed in the measurement site. Clothing or other material touching the probe tip may cause inaccurate readings.



6. Be sure the probe tip is completely surrounded by axillary tissue and place the arm snugly at the patient's side. Hold the arm in this position without movement of the arm or probe during the measurement cycle. *Keeping the probe tip still ensures rapid and accurate measurement.*

7. When the final temperature has been obtained, three short tones sound and the patient's temperature is displayed.

8. To continue measuring temperature in the Peak Hold Monitor Mode (if desired), hold the Mode button down for more than 2 seconds after the final "predicted" temperature is displayed.

9. After temperature measurement is complete, remove the probe. Eject the probe cover by firmly pressing the Ejection button on the probe (see diagram, page 5).

10. Return the probe to the probe storage channel to turn off the thermometer. If this is not done, the instrument switches off automatically after 10 seconds.

RECTAL TEMPERATURE MEASUREMENT

When used correctly, your rectal thermometer (red-capped probe), is able to accurately measure rectal temperature within approximately 15 seconds.

1. Remove the probe from the probe storage channel.

2. Fit a probe cover onto the probe as described in *Initial Operation* (Page 9).

3. Verify that the rectal measurement symbol is flashing on the display. This indicates that you are ready to take a rectal temperature.

4. Separate the buttocks with one hand. Using the other hand, gently insert the probe only 1.5 cm (5/8") inside the rectum (less for infants and children). The use of lubricant is optional.

WARNING: Incorrect insertion can cause bowel perforation.

5. Tilt the probe so that the tip is in contact with tissue. *Hold the probe in place during the entire temperature measurement process.*

6. When the final temperature has been obtained, three short tones sound and the patient's temperature is displayed.

7. To continue measuring temperature in the Peak Hold Monitor Mode (if desired), hold the Mode button down for more than 2 seconds after the final "predicted" temperature is displayed.

8. After temperature measurement is complete, remove the probe. Eject the probe cover by firmly pressing the Ejection button on the probe (see diagram, page 5).

9. Return the probe to the probe storage channel to turn off the thermometer. If this is not done, the instrument switches off automatically after 10 seconds.

10. Wash your hands.

NOTE: Washing hands greatly reduces the risk of cross-contamination.

TEMPERATURE RECALL AND °F/°C TOGGLE

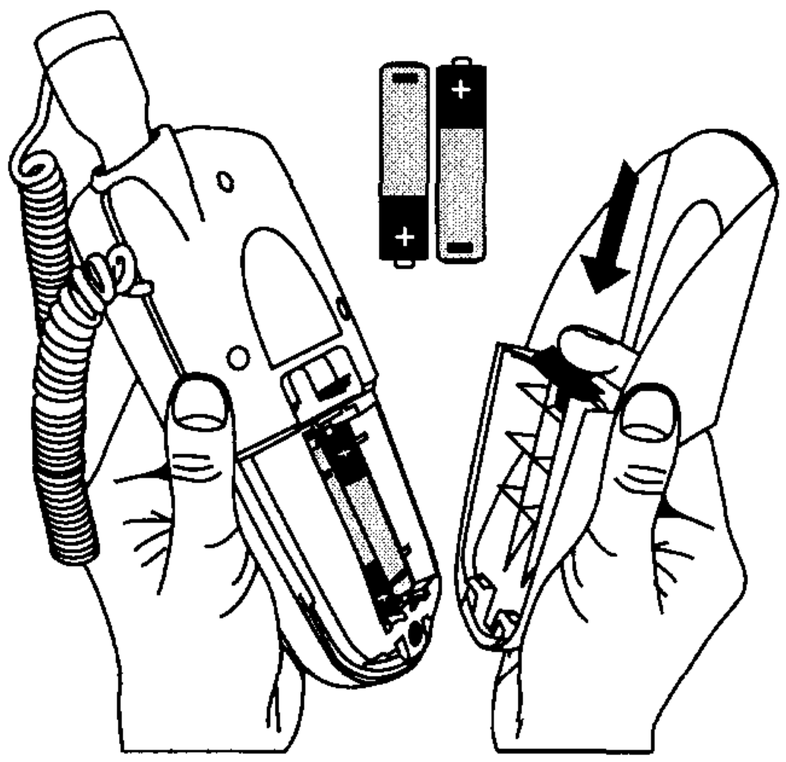
Place the probe in the storage channel to turn the thermometer OFF. Briefly press the Mode Button to call up the last measured temperature value. The stored temperature value appears on the display with an **M** (indicating Memory) and the flashing symbol of the measurement site.

To toggle between °F and °C settings, briefly press the Mode button again while the recalled temperature is on the display. The instrument switches off automatically after 5 seconds. The temperature scale selection is retained in memory until the setting is changed again.

MAINTENANCE

BATTERY REPLACEMENT

1. Remove the probe cover storage assembly on the back of the thermometer by pressing on the spring clip on the probe cover storage assembly.
2. Remove the batteries.



3. **Hold the Mode button down for 5 seconds prior to installing new batteries.**
4. Replace both batteries. Use AAA alkaline batteries only. Match the +/- polarity of each battery to the +/- symbols inside the battery compartment.
5. Snap the probe cover storage assembly back into place.

⚠ **NOTE:** It is important to hold the Mode button down for 5 seconds after removing the batteries and prior to installing new batteries. This will discharge the unit. Failure to follow this procedure could lead to subsequent instrument errors.

NOTE: Remove the batteries from the instrument if it will not be used for extended periods of time in order to avoid damage to the thermometer due to battery leakage.

CLEANING

The 986 SureTemp housings may be cleaned with a soft cloth dampened with alcohol, warm water, or a non-staining hospital grade disinfectant. Ensure that no liquid enters the interior of the thermometer. Never immerse the instrument in water or cleaning liquids. Care should be taken not to scratch the LCD faceplate.

TECHNICAL SPECIFICATIONS

Temperature Range	
Ambient	48.2°F (9.0°C) – 104.0°F (40.0°C)
Patient(Oral/Axillary)	96.0°F (35.5°C) –109.4°F (43.0°C)
Patient (Rectal)	86.0°F (30.0°C) – 109.4°F (43.0°C)
Storage	-25.0°C – 55.0°C; 15% – 95% relative humidity non-condensing
Accuracy	± .2°F (± 0.1°C)
Weight	6 ounces (171 grams)
Dimensions (approx.)	2.3″ W, 6.6″ H, 1.9″ D 5.8 cm W, 16.8 cm H, 4.8 cm D

EQUIPMENT DISPOSAL

This equipment contains no hazardous materials and can be discarded without environmental risk. Batteries should be removed before disposal.

BATTERY DISPOSAL

Used batteries should be disposed of properly. Consult your local recycling authority for proper procedures.

REPLACEMENT PARTS AND ACCESSORIES

PART #	DESCRIPTION
21013-0000	Probe Cover Wall Holder
05031-101	SureTemp Disposable Probe Covers - 1,000 Per Case
20500-250	SureTemp Disposable Probe Covers - Sleeve of 250
70994-0000	M986 SureTemp User's Manual
70995-0000	M986 SureTemp Technical Manual

LIMITED WARRANTY

1-YEAR LIMITED WARRANTY ON NEW INSTRUMENTS:

Instrumentation purchased new from Welch Allyn, Inc. is warranted to be free from original defects in material and workmanship under normal use and service for a period of one year from the date of first shipment from Welch Allyn. This warranty shall be fulfilled by Welch Allyn or its authorized representative repairing or replacing at Welch Allyn's discretion, any such defect, free of charge for parts and labor.

Welch Allyn should be notified via telephone of any defective product and the item should be immediately returned, securely packaged and postage prepaid to Welch Allyn. Loss or damage in shipment shall be at purchaser's risk.

Welch Allyn will not be responsible for loss associated with the use of any Welch Allyn product that (1) has had the serial number defaced, (2) has been repaired by anyone other than an authorized Welch Allyn Service Representative, (3) has been altered, or (4) has been used in a manner other than in accordance with instructions.

1-YEAR LIMITED WARRANTY ON PROBE COVERS:

Welch Allyn warrants probe covers to meet Welch Allyn's specifications for the Product at the time of purchase and to be free from original defects in material and workmanship under normal use and service for a period equal to 1 year from the date of first shipment of such Product to the customer by or on behalf of Distributor. Probe covers are intended for single use only.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY IMPLIED WARRANTY OR MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR OTHER WARRANTY OF QUALITY, WHETHER EXPRESSED OR IMPLIED. WELCH ALLYN WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Welch Allyn

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